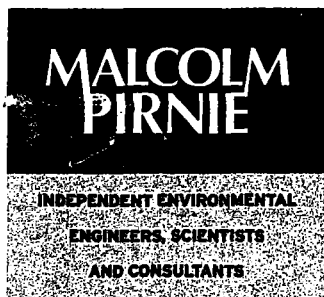


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LETTER REGARDING PREMILIMARY ASSESSMENT SITE RECOMMENDATIONS SITE
PRIORITIZATION AND COST ANALYSIS ON MUNITIONS RESPONSE PROGRAM SITES
NSA CRANE IN
2/23/2007
MALCOM PIRNIE



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February 23, 2007

Mr. Thomas Brent
Crane Division, Naval Surface Warfare Center
Code PRCR4-TB, B3260
300 Highway 361
Crane, IN 47522-5001

Re: Site Recommendations, Site Prioritization, and Cost Analysis
Crane Division, Naval Surface Warfare Center (NSWC Crane), Indiana
Navy Preliminary Assessments on MRP
Contract N62472-02-D-1300
Project No. 7

Dear Mr. Brent:

Malcolm Pirnie is pleased to provide to the NSWC Crane, the **Site Recommendations, Site Prioritization, and Cost Analysis** for NSWC Crane, Indiana. This Final letter report includes the following Munitions Response Program (MRP) sites located at NSWC Crane, Indiana:

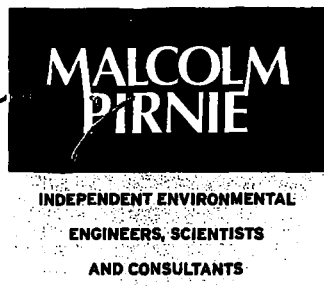
- Conservation Dam No. 2845
- Dugger Lake Facility
- Lake Greenwood Pyro Test Area Near Dam
- Lake Oberlin

The site recommendations, site prioritization, and cost analysis were prepared using data presented in the April 2005 Final Water Area Munitions Study (WAMS) for NSWC Crane, Indiana by Malcolm Pirnie, Inc. The recommendations and cost analysis represent the minimal investigation needed to gauge future activities. As such, in many cases only the next phase of investigation is provided in the recommendations and costs estimates. Additionally, the recommendations and cost estimates do not reflect all investigations required for closure of the sites.

Recommendations for all study areas are provided as Enclosure 1. The recommendations are based upon the data presented in the April 2005 Final WAMS following the Comprehensive Environmental Response, Compensation, and Liability Act and MRP guidance where applicable.

The cost-to-complete analysis for the study areas recommended for further action are provided as Enclosure 2. The cost-to-complete analysis was created using the most recent RACER cost model (Version 2006) following the site recommendations presented in this report.

Site prioritization analysis for all study areas are provided as Enclosure 3. The site prioritization analysis is based upon the latest version of MRP site prioritization protocol published in the Federal Register (October 2005).



The site recommendations, site prioritization, and cost analysis to complete the recommendations for the four sites are summarized in Table 1 below.

Table 1: Installation Summary
(Prioritization, Recommendations, and Costs)

	Conservation Dam No. 2845	Dugger Lake Facility	Lake Greenwood Pyro Test Area Near Dam	Lake Oberlin
Prioritization Score of 2: highest priority Score of 8: lowest priority	7	7	6	7
Recommendations (MEC/MC) NFA = No Further Action SI = Site Inspection RI= Remedial Investigation ER = Emergency Response	NFA/SI	NFA/SI	NFA/SI	NFA/SI
RACER Cost Analysis¹	\$ 71,420	\$ 77,430	\$ 66,695	\$ 61,252

Total Installation Cost-to-Complete: \$276,797

In total five copies of the Final Site Recommendations, Site Prioritization, and Cost Analysis are provided for distribution at your discretion. Comments received on January 26, 2007 from NSWCrane have been incorporated, and comments and responses are presented in the attached response to comments document which was approved by NSWCrane on February 19, 2006 via e-mail.

Please contact me at (215) 931-4347 or hdinh@pirnie.com or Denise Tegtmeier at (410) 230-9963 or dtegtmeyer@pirnie.com if you have any questions or comments.

Very truly yours,

MALCOLM PIRNIE, INC.

Denise Tegtmeier
Hien Q. Dinh
Team Leader, NSWCrane

Enclosure

cc: Malcolm Pirnie – Denise Tegtmeier (1 copy)
Malcolm Pirnie – Cheryl Kennedy (1 copy)

**Malcolm Pirnie Response to
Comments on November 2006 Draft Final Water Area Munitions Study
Site Recommendations, Site Prioritization, and Cost Analysis
For NSWC Crane
February 2007**

Malcolm Pirnie is pleased to provide this Response to Comments for comments received on 26 January 2007 from Mr. Thomas Brent of NSWC Crane on the November 2006 Draft Final Water Area Munitions Study, Site Recommendations, Site Prioritization, and Cost Analysis binder for NSWC Crane. In order to respond effectively, the original comments have been reproduced below. Malcolm Pirnie's responses are displayed in *italics*.

1. Comment: Conservation Dam No. 2845: Should metals be added to the recommended analytes?

Response: Metals are not included in the recommended analyte list because metals were not identified as munitions constituents of concern (MCOC). Based on the history of the site and the types of munitions used, only perchlorate and explosives were identified as MCOCs and are the recommended analytes. No changes will be made to the recommendations.

2. Comment: Dugger Lake Facility: What is the rationale for including perchlorates in the analytical recommendations for Conservation Dam No. 2845 and not for Dugger Lake?

Response: Perchlorate sampling is recommended for Conservation Dam No. 2845 because the munitions (flares) tested there may potentially contain perchlorate. However, the munitions (marine markers, cable cutter, etc.) tested at Dugger Lake do not contain perchlorate, so it is not included in the list of recommended analytes. No changes will be made to the recommendations.

3. Comment: Lake Greenwood Pyro Test Area Near Dam: The statement on p. 3, "There is a potential for MCs to be located throughout the lake," is a bit excessive. Due to the natural flow of water, the expected impacts from MCs would be in the immediate area of the test areas and downstream of the test areas, as more-or-less noted on p.4.

Response: Although there is a potential for MCs to migrate from the test area, it is expected that the MCs (if present) would be present at the test areas and downstream of the test areas. The recommended sampling locations should include an upstream sample, samples at the test areas, and downstream samples. The text will be revised to reflect this assumption and recommendation.